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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/790,365	03/01/2004	Carl Christian Fels	ATOTP0110US	9356

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EXAMINER

WONG, EDNA

ART UNIT	PAPER NUMBER
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1795

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/790,365	Applicant(s) FELS ET AL.	
	Examiner EDNA WONG	Art Unit 1795	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 September 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) 21-24 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 3,5,9,12 and 18-20 is/are rejected.
- 7) ☒ Claim(s) 1,2,4,6-8,10,11 and 13-17 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>See Continuation Sheet</u> . | 6) <input type="checkbox"/> Other: _____ |

Continuation of Attachment(s) 3). Information Disclosure Statement(s) (PTO/SB/08), Paper No(s)/Mail Date :March 17, 2004 and April 11, 2006.

Election/Restrictions

Applicant's election with traverse of Group I, claims **1-20**, in the reply filed on September 13, 2007 is acknowledged. The traversal is on the ground(s) that although claims 21-24 are directed to a conductive substrate having an iron-phosphorus alloy deposited thereon, these claims require that the deposited alloy is formed by "electrodeposition from the bath of claim 1." The acidic iron phosphorus bath of claim 1 and the electroplating bath utilized in claims 21-24 are the same. Accordingly, even though the claims of the two inventions are patentably distinct, the search required of the Examiner would not be burdensome.

This is not found persuasive because product-by-process claims are not limited to the manipulations of the recited steps, only to the structure implied by these steps (MPEP § 2113). Furthermore, it has been known to plate aluminum alloy pistons, cylinders, etc. with an iron phosphorus alloy to improve the abrasion resistance and galling resistance of these articles (Applicants' specification, "Background of the Invention") [page 1, lines 5-10]. It would be a burden to search all of the conductive substrates having an iron phosphorus alloy deposited thereon taught in the prior art and compare it with the conductive substrate as presently claimed.

The requirement is still deemed proper and is therefore made FINAL.

Accordingly, claims **21-24** are withdrawn from consideration as being directed to a non-elected invention.

Specification

I. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

The abstract of the disclosure is objected to because the abstract is more than one paragraph. Correction is required. See MPEP § 608.01(b).

II. The disclosure is objected to because of the following informalities:

page 3, line 3, a -- , -- (comma) should be inserted after "(NaH₂PO₂)".

page 2, line 26, a -- , -- (comma) should be inserted after the word "atoms".

page 5, line 10, the word "nenotubes" should be amended to the word -- nanotubes --.

Appropriate correction is required.

Claim Objections

Claims **1, 5-6, 10, 15, 18 and 20** are objected to because of the following informalities:

Claim 1

line 1, a -- : -- (semicolon) should be inserted after the word “comprising”.

Claim 5

line 1, the words “sulfur containing” should be amended to the word -- sulfur-containing --.

line 5, a -- , -- (comma) should be inserted after the word “atoms”.

Claim 6

line 1, it is suggested that the word “also” be amended to the word -- further --.

Claim 10

line 1, a -- : -- (semicolon) should be inserted after the word “comprising”.

Claim 15

line 1, it is suggested that the word “also” be amended to the word -- further --.

Claim 18

line 2, a -- : -- (semicolon) should be inserted after the word “comprises”.

Claim 20

line 2, a -- : -- (semicolon) should be inserted after the word “comprises”.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

Claims **3, 5, 9, 12 and 18-20** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 3

line 1, “the source of hypophosphite ion” lacks antecedent basis.

Claim 5

lines 1-7, it does not appear that the sulfur-containing compound represented by the formula “Y-S-R¹-SO₃X” is further limiting any of the species recited in parent claim 1, namely, the “sulfoalkylated polyethylene imines, sulfonated safranin dye, and mercapto aliphatic sulfonic acids or alkali metal salts thereof”, as required.

Claim 9

line 1, “the source of ferrous ion” lacks antecedent basis.

Claim 12

lines 1-2, recite “wherein the phosphorus is present as hypophosphorus acid, an alkali metal hypophosphite salt, or mixtures thereof”.

Parent claim 10, lines 3-4, recites “said phosphorus being supplied as hypophosphite ion”.

It is unclear how the phosphorus is present as hypophosphorus acid, an alkali metal hypophosphite salt, or mixtures thereof and is supplied as hypophosphite ion.

Claim 18

line 3, “an acidic aqueous electroplating bath of claim 1” lacks antecedent basis.

Claim 20

line 3, it appears that “an acidic aqueous electroplating bath of claim 10” is the same as the aqueous acidic iron phosphorus electroplating bath recited in claim 10, line 1. However, the claim language is unclear as to whether it is. If it is, then it is suggested that the word “an” be amended to the word -- the -- .

Allowable Subject Matter

The following is a statement of reasons for the indication of allowable subject matter:

Claims **1-9 and 18-19** define over the prior art of record because the prior art does not teach or suggest an aqueous acidic iron phosphorus bath comprising (A) to (C) as present claimed; and a process for electrodepositing an iron-phosphorus alloy on a conductive substrate which comprises the step of (A) providing and (B) effecting as presently claimed.

Claims **10-17 and 20** define over the prior art of record because the prior art does not teach or suggest an aqueous acidic iron phosphorus electroplating bath comprising (A) to (C) as presently claimed; and a process for electrodepositing an iron-phosphorus alloy on a conductive substrate which comprises the step of (A) providing and (B) effecting as presently claimed.

The prior art does not contain any language that teaches or suggests the above. *Uchida et al.* does not teach an aqueous acidic iron phosphorus bath comprising a sulfur-containing compound selected from sulfoalkylated polyethylene imines, sulfonated safranin dye, and mercapto aliphatic sulfonic acids or alkali metal salts thereof. Therefore, a person skilled in the art would not have been motivated to adopt the above conditions, and a prima facie case of obviousness cannot be established.

Claims 1-2, 4, 6-8, 10-11 and 13-17 would be allowable if rewritten or amended to overcome the claim objection(s) set forth in this Office action.

Claims 3, 5, 9, 12 and 18-20 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action.

Citations

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Uchida et al. (US Patent No. 4,746,412) is cited to teach an aqueous acidic iron phosphorus bath.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to EDNA WONG whose telephone number is (571) 272-1349. The examiner can normally be reached on Mon-Fri 7:30 am to 4:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nam Nguyen can be reached on (571) 272-1342. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should

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you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Edna Wong/
Primary Examiner
Art Unit 1795

EW
April 15, 2008